

Notice of Allowability	Application No.	Applicant(s)	
	10/685,281	OBERHEIM, STEPHEN C.	
	Examiner	Art Unit	
	Erica E Cadugan	3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to dkt no. 0212.67077 filed 10/14/2003 and interview of 12/16/04.
2. ☒ The allowed claim(s) is/are 1-26 and 28.
3. ☒ The drawings filed on 14 October 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Roger Greer on December 16, 2004.

2. The application has been amended as follows:

The second paragraph of the abstract has been deleted.

On page 7, after line 26, the following paragraph has been inserted:

In either of the motorized embodiments of Figures 4-5, the sensor comprises a rotary sensing device operatively associated with the depth adjusting motor. The rotary sensing device generates rotary position signals.

On page 9, the following paragraph has been inserted between lines 9 and 10:

The display is one of a liquid crystal display or a light emitting diode display.

Claim 1 (Currently Amended). A router having plunge-type operability for driving a router bit and controlling the depth of cut of a router bit relative to a work piece, said router being useable in an upright and in an inverted position, comprising:

a housing assembly having a drive motor being capable of driving a drive shaft to which the router bit can be attached;

a base having a generally planar outer surface and a central opening through which the router bit can extend, and at least a pair of posts operatively connected to said housing assembly;

a depth adjusting mechanism for controlling the depth of cut of the router bit relative to a baseline position, said adjusting mechanism having a plunge depth rod longitudinally adjustably connected to said housing assembly and a stop surface associated with said base, which stop surface cooperates with an end of the plunge depth rod for limiting the depth of cut of the router bit during operation;

a sensor for generating position signals indicative of the position of said adjustable depth rod;

input means responsive to operator manipulation for generating input signals for controlling the operation of the router;

a display responsive to information signals for providing a visual display of information relating to the operation of the router;

processing means for receiving said position and input signals and for selectively generating said information and position control signals.

Claim 17 (Currently Amended). A router as defined in claim 3 wherein said depth adjusting motor is operatively connected to said plunge depth rod, which connection comprises an elongated screw that engages an internal thread in said plunge depth rod, said depth rod being prevented from rotation by said housing assembly, the rotation of said screw in first and second directions causing said plunge depth rod to move relative to said housing assembly in first and second directions generally parallel to said drive motor shaft.

Claim 20 (Currently Amended). A router as defined in claim 1 wherein said sensor [comprises a digital caliper] is operatively connected to said plunge depth rod, said

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[potentiometer] sensor being capable of producing an electrical signal that is indicative of the specific position of the plunge depth rod relative to the housing assembly.

Claim 24 (Currently Amended). A method of specifying and controlling the depth of cut in a work piece by a plunge router of the type which has a housing assembly containing a drive motor having a drive shaft to which a router bit can be attached, a base having a generally planar outer surface and a central opening through which the router bit can extend, and at least a pair of posts operatively connected to said housing assembly, a depth adjusting mechanism for controlling the depth of cut of the router bit relative to a baseline position, the adjusting mechanism having a plunge depth rod that is longitudinally adjustable and lockable to the housing assembly and a stop surface associated with said base and cooperating with an end of said plunge depth rod for limiting the depth of cut of the router bit during operation, a sensor for generating position signals indicative of the position of the adjustable depth rod, a display responsive to information signals for providing a visual display of information relating to the operation of the router, and a processing means for receiving said position and input signals and for selectively generating said information and position control signals, comprising the steps of:

adjusting the depth adjusting mechanism to bring the router bit into contact with the surface of the work piece;

adjusting the plunge depth rod to contact the stop surface;

locking the plunge depth rod in place;

manipulating the input means to set a zero baseline position;

unlocking the plunge depth rod;

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adjusting the adjusting mechanism to the desired depth of cut by observing [the] depth of cut values being displayed by the display; and,

locking the plunge depth rod in place.

Claim 25 (Currently Amended). A method of specifying and controlling the depth of cut in a work piece by a plunge router of the type which has a housing assembly containing a drive motor having a drive shaft to which a router bit can be attached, a base having a generally planar outer surface and a central opening through which the router bit can extend, and at least a pair of posts operatively connected to said housing assembly, a motorized depth adjusting mechanism for controlling the depth of cut of the router bit relative to a baseline position, the adjusting mechanism having a plunge depth rod that is longitudinally adjustable relative to the housing assembly and a stop surface associated with said base and cooperating with an end of said plunge depth rod for limiting the depth of cut of the router bit during operation, a sensor for generating position signals indicative of the position of the adjustable depth rod, a display responsive to information signals for providing a visual display of information relating to the operation of the router, and a processing means for receiving said position and input signals and for selectively generating said information and position control signals, comprising the steps of:

adjusting the depth adjusting mechanism to bring the router bit into contact with the surface of the work piece;

adjusting the plunge depth rod to contact the stop surface;

manipulating the input means to set a zero baseline position; and adjusting the adjusting mechanism to the desired depth of cut by observing [the] depth of cut values being displayed by the display.

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Claim 26 (Currently Amended). A plunge router for driving a router bit, said router being useable in an upright and in an inverted position, comprising:

a housing assembly having a drive motor being capable of driving a drive shaft to which the router bit can be attached;

a base having a central opening through which the router bit can extend, and being operatively connected to said housing assembly;

a depth adjusting mechanism for controlling the depth of cut of the router bit relative to a baseline position, said depth adjusting mechanism including a plunge depth rod that is longitudinally adjustable relative to the housing assembly and a stop surface associated with the base and cooperating with an end of the plunge depth rod for limiting the depth of cut of the router bit during operation, and a sensor for generating position signals indicative of the position of the adjustable depth rod;

input means responsive to operator manipulation for generating input signals for controlling the operation of the router;

a display responsive to information signals for providing a visual display of information relating to the operation of the router, wherein said display comprises a plurality of multiple segment alpha-numeric characters aligned in a generally predetermined orientation, said display being capable of being reoriented at an inverted orientation; and,

processing means for receiving said input and position signals and for selectively generating said information signals.

Claim 27 has been canceled.

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Claim 28 (Currently Amended). A router as defined in claim [27] 26 wherein said predetermined orientation of said characters is perpendicular to the longitudinal direction of the drive motor drive shaft.

3. The following is an examiner's statement of reasons for allowance:

U.S. Pat. No.'s 6,474,378 to Ryan et al., 4,272,821 to Bradus, and 5,094,575 to Kieser et al. are exemplary of the closest prior art of record to the present invention as set forth in independent claims 1 and 24-26.

Re '378, '378 teaches a plunge router 20 (see title and col. 1, lines 4-5, for example) usable in upright and inverted positions (see Figures 1 and 10). The router has a housing assembly 22, a drive motor 62 (col. 2, lines 50-51), a motor drive shaft 62, and a router bit 68 that extends through a central opening 70 of a base 44 (see Figure 1, for example). Further note the use of the depth adjusting mechanism 46 including input means, such as the buttons 30, 32, that are responsive to operator manipulation to generate input signals to control the router. Note also that the depth adjusting mechanism includes a longitudinally adjustable "depth rod" 78 (see Figure 4, for example). Additionally, '378 teaches the use of display 28. Note that the display is "capable" of being reoriented at an inverted orientation, by, for example, turning the router upside down as in Figure 10. Furthermore, insofar as the present invention has a non-specifically described "processing means", the device taught by '378 inherently must also have some sort of "processing means" for converting the pushing of the buttons into the router control signals.

Especially re claims 1 and 24-25 as originally filed, it is noted that the internal threads of the threaded nut 76 (see Figure 4), for example, have a surface that is considered a "stop surface"

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as they serve to aid in the limiting of the depth of cut. Further note that, as broadly claimed, the nut 76 is ultimately “associated with” the base 44.

However, the aforescribed “stop surface” does not “cooperate with an end of the depth rod for limiting the depth of cut of the router bit during operation” as set forth in the independent claims.

For at least this reasoning, ‘378 does not anticipate the present invention as set forth in the independent claims.

Additionally, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of ‘378, and thus, for at least this reasoning, ‘378 does not render obvious the present invention as set forth in independent claims 1 and 24-26.

Re ‘821, ‘821 teaches a router 10 “having plunge-type operability” in that the tool bit held within collet 14 is able to be “plunged”, i.e., to have it’s cutting depth readily adjusted, via a depth adjustment system including rack 24, pinion 26, and an adjustment knob 32. Rotation of the adjustment knob vertically shifts the position of the housing 12 and the tool bit carried thereby relative to a base 16 and the workpiece which contacts the base 16 (see Figures 1-2 and col. 2, lines 14-63 and especially lines 45-63, for example). Note also the provision of “display” 25 that functions either right-side-up or upside-down (see col. 4, line 57 through col. 5, line 13), and is responsive to position encoder 36 to display the depth of cut as well as a zero position (see col. 2, lines 36-44 and Figures 1-3, for example).

Regarding independent claims 1, 24, and 25, ‘821 does not appear to teach a “pair of posts operatively connected to said housing assembly”. Additionally, regarding independent

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claims 1, 24, 25, and 26, '821 does not teach a "plunge depth rod longitudinally adjustably connected to said housing assembly", nor a "stop surface associated with said base, which stop surface cooperates with an end of the plunge depth rod for limiting the depth of cut of the router bit during operation" as set forth in each of the independent claims.

For at least the foregoing reasoning, '821 does not anticipate the present invention as set forth in the independent claims.

Additionally, re the depth rod and stop surface limitations, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of '821, and thus, '821 does not render obvious the present invention as set forth in independent claims 1 and 24-26.

Note that references such as U.S. Pat. No. 5,094,575 to Kieser et al. teach a plunge router (see col. 2, lines 5-10, for example) having a drive motor housing 1 (Figure 1), a foot plate or base 4 having an opening through which the tool bit (held at cutter head 2) passes to reach the workpiece, a pair of guide columns or "posts" 5, a longitudinally adjustable "depth rod" 21 (col. 5, lines 64-66), and a plurality of stop screws 52 having "stop surfaces" that cooperate with an end of the depth rod 21 for limiting the depth of cut of the router bit during operation (see col. 9, line 30 through col. 10, line 5). Furthermore, '575 teaches a "display" 31 (see especially col. 3, lines 10-15, and also col. 2, lines 31-36 and col. 6, lines 37-63) that provides a visual display of "information relating to the operation of the router" (Figure 1, and col. 6, lines 37-63, for example). Additionally, the router inherently has some sort of "input" device to turn power on or off, even if such is just a plug that plugs into the wall, that generates an "input" signal to control the operation of the router (i.e., by turning it on or off).

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However, '575 does not teach any sort of "sensor for generating position signals indicative of the position of the adjustable depth rod", nor any sort of "processing means for receiving said position and input signals for selectively generating said information" signals as set forth in each of the independent claims.

Thus, for at least this reasoning, '575 does not anticipate the present invention as set forth in the independent claims.

Additionally, there is no combinable teaching in the prior art of record that would reasonably motivate one having ordinary skill in the art to so modify the teachings of '575.

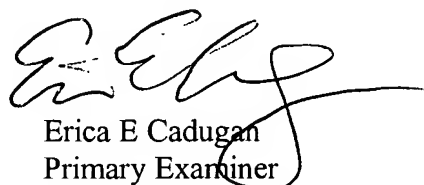
For at least the foregoing reasoning, the prior art of record neither anticipates nor renders obvious the present invention as set forth in the independent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erica E Cadugan whose telephone number is (571) 272-4474. The examiner can normally be reached on M-F, 7:30 a.m. to 5:00 p.m., alternate Fridays off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Erica E Cadogan
Primary Examiner
Art Unit 3722

eec

December 16, 2004